



PLTW Virtual Learning

# Medical Detectives

## Lesson 5

April 10, 2020



# 7 & 8 Grade Medical Detectives

## Lesson: April 10, 2020

### **Objective/Learning Target:**

**Students will learn how hearing works and learn parts of the ear.**

## Warm-Ups:

1. Get a sheet of notebook paper, writing utensil and something to time yourself with for one minute. Next go to a quiet area in your home. Time yourself for one minute and write down all the sounds you hear during this time. Use the [one-minute timer link](#) if needed.
2. How many different sounds did you hear? How many were loud? How many soft?



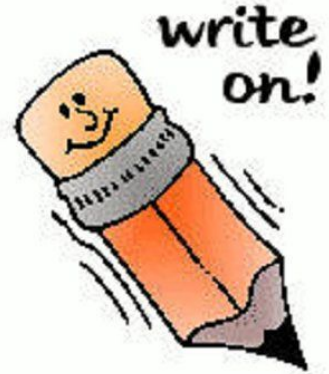
# Lesson Introduction/Background Information:

Watch the following video about how the ear works and what it takes to hear sounds.

## How the Ear Works

After watching the video, list the three main parts of the ear.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_



# Practice:

Watch the following video and write down five things you learned that are important to be able to hear. What were your important takeaways.

## How Hearing Works

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_



# Practice:

From the video you watch, **Sound Advice: Tips for Healthy Ears**, write down four ways to keep your ears healthy.

## Sound Advice: Tips for Healthy Ears



1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

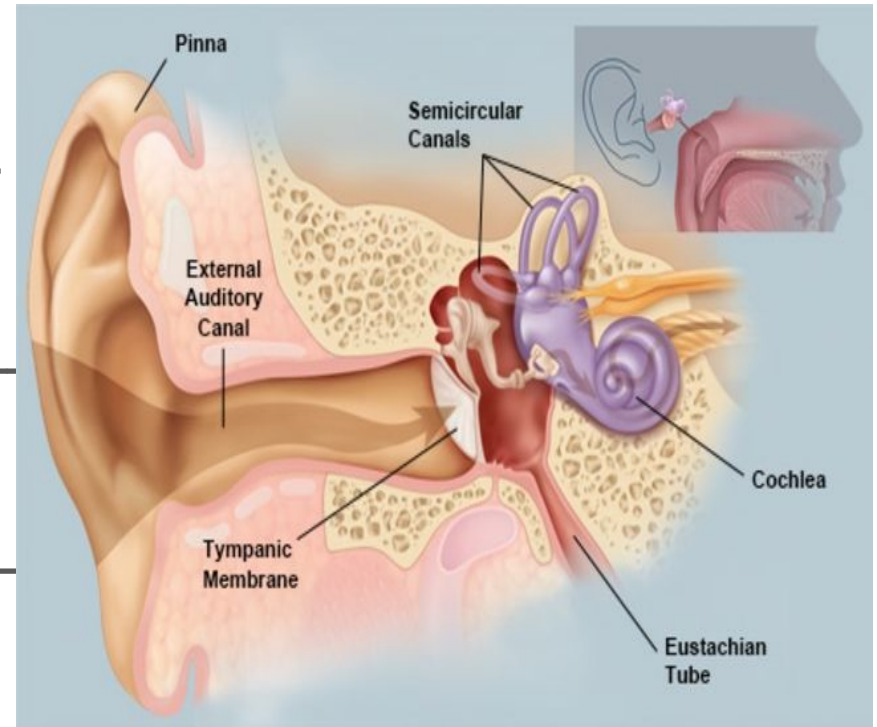
# Self Assessment:

State what the following parts of the ear do:

1. Cochlea \_\_\_\_\_

2. Tympanic Membrane \_\_\_\_\_

3. External Auditory Canal \_\_\_\_\_



# Answer Key:

Did you have the correct answers? Let's find out!

Lesson Introduction Video, How the Ear Works:

1. Outer ear
2. Middle ear
3. Inner ear

How Hearing Works Video -- Students five answers will vary:

Sound Advice: Tips for Healthy Ears Video.

1. Avoid personal listening that is too loud and for too long.
2. Avoid listening to noises over 85 decibels for more than eight hours.
3. Volume should be at 60% or lower.
4. Avoid shouting when talking.

Self Assessment:

1. Cochlea - transforms the stimulus into a neural signal.
2. Tympanic Membrane - also called the eardrum, is a thin layer of cone-shaped tissue that separates the outer ear from the middle ear.
3. External Auditory Canal - a passageway for sound to reach the tympanic membrane, or eardrum, also acts as a filter to reduce low frequencies.





## Extend Your Learning/Continued Practice:

**[Hearing Test: How Old are Your Ears?](#)** Take the test and see how old your ears are. Remember this is a home experiment and just for fun.

**[Guess the Sound Game: 20 Sounds to Guess](#)** See how many of the sounds you can recognize. Enjoy!

